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NEWS LETTER

BUREAU OF PLANT QUARANTINE

UNITED STATES DEPARTMENT OF AGRICULTURE

Number 37 (NOT FOR PUBLICATION) January 1, 1934.

(The contents of this number, unless specifically stated otherwise, cover the month of November only)

FOREIGN PLANT QUARANTINES

RECENT ENTOMOLOGICAL INTERCEPTIONS OF INTEREST

Apple maggot from Mexico.--Eight living larvae of the trypetid Rhagoletis pomonella Walsh were intercepted at Brownsville, Tex., in an apple in baggage from Mexico.

Coleopteron in elm log from England.--A larva of Rhinosimus ruficollis L. (Pythidae) was taken at New Orleans, La., underneath the bark of an elm log in cargo from England.

Wireworm from the Netherlands.--A living larva of Athous niger L. (Elateridae) was intercepted at Washington, D. C., in soil around the roots of Helleborus niger (Christmas-rose) in the express from the Netherlands. The larva, which is known as the tobacco wireworm in Europe, tunnels the roots of tobacco and other plants. It is not recorded from the United States.

Thrips from Scotland.--Taeniothrips vulgatissimus (Hal.) was intercepted at Philadelphia on Sorbus berries in the mail from Scotland. J. R. Watson, of Gainesville, Fla., reports that this species is not known to occur in this country.

Scolytid from Sumatra.--The coffee berry borer (Stephanoderes hampei Ferr.) was intercepted at New York in coffee in cargo from Sumatra.

Scale insect from Jamaica.--Pseudaonidia trilobitiformis (Green) (Coccidae) was intercepted at Boston on sour limes in stores from Jamaica.

Lanternfly in Puerto Rico.--An adult of Patara albidula Westw. (Fulgoridae) was collected on a grapefruit leaf in the field at Manati, P. R.

Hemiptera from Venezuela.--Clerada apicicornis Sign. (Lygaeidae), Melanoderma picipes Stal (Pentatomidae), and Sysinas floridulus Dist. (Miridae) were taken at Washington, D. C., in packing of Cattleya plants in cargo from Venezuela.

Mahogany logs infested.--Adults of Platypus rugulosus Chapuis (Platypodidae) and Xyleborus grenadensis Hopk. (Scolytidae) were taken at New Orleans in mahogany logs in cargo from Mexico. M. W. Blackman, of the Bureau of Entomology, states that both species have been introduced many times and possibly the latter is established at places. Dr. Blackman further states that neither is known to cause any considerable damage except in the tropics.

Earwig from Japan.--A male of Anisolabis littorea White was intercepted at Galveston, Tex., in a potato in stores from Japan. This species is not recorded from the continental United States.

Coccids from Japan.--Antonina crawi Ckll. and Eriococcus onukii Kuw. were intercepted at Seattle, Wash., on two plants of Arundinaria japonica in ship's quarters from Japan.

Thrips on pineapples.--Haplothrips gowdeyi (Franklin) was intercepted at San Francisco on pineapples in cargo from Hawaii. This species has been recorded from southern Florida, Australia, Mexico, Nicaragua, and the West Indies.

Coleopterous larva from Norway.--A larva of Serica brunnea L. (Scarabaeidae) was taken at Boston in soil around the roots of plants in cargo from Norway.

Bark beetle from East Africa.--An adult of Xyleborus affinus Eichh. (Scolytidae) was intercepted at Baltimore under the bark of a black walnut log in cargo from East Africa. M. W. Blackman reports that this species is rapidly becoming cosmopolitan and that it is already established in the United States.

RECENT PATHOLOGICAL INTERCEPTIONS OF INTEREST

Chinkerichee season starts.--Shipments of cut flowers of Ornithogalum thyrsoides from South Africa began to arrive in October, the first specimens infected with Puccinia ornithogali-thyrsoides having been intercepted at Philadelphia on October 30. Similar material has been received since then from Boston, Chicago, and Philadelphia (3). Some material showed numerous lesions of Heterosporium ornithogali, often on stems affected by the rust also.

Cuban lima bean season starts.--The first lima bean scab, Elsinoe canavaliae, received this season was intercepted at New York on November 14, on material from Cuba. Last year the first interception was made on November 10. Interceptions of lima bean scab are not nearly so frequent as formerly.

Celery diseases.--On October 27, diseased celery from Belgium was intercepted at Philadelphia and found to be infected with Phyllosticta apii, our first interception record of this disease. At the same port celery from Gibraltar was found infected with Cercospora apii on November 18, the first interception of this disease this year and the first from Gibraltar. Previous interceptions included Bermuda (3), Brazil, England, and Germany, the last named on celeriac instead of celery.

Euonymus disease.--A Pestalozzia sp. leaf spot of Euonymus obovatus var. variegata from Japan, intercepted on October 3 at Seattle, has been determined by

Miss E. K. Cash as P. neglecta. Our only previous interception record of this fungus is undated but approximately 15 years old, on Ceratonia siliqua from Spain.

Fatsia diseases.--Diseased Fatsia japonica leaves on plants from Japan were taken at Seattle on October 3, 17, and 22 and referred to Miss E. K. Cash, who reported the October 3 specimen as Gloeosporium (no species reported on host), one October 17 specimen and the October 22 specimen as the Gloeosporium stage of Glomerella cingulata, and the other October 17 specimen as Pestalozzia sp. (None reported on this host - not like only species reported on Araliaceae.)

Chrysanthemum rust.--Our first interception of the chrysanthemum rust, Puccinia chrysanthemi, was sent in from Nogales on chrysanthemum cut flowers from Mexico, intercepted on November 7.

Citrus black spot on fresh fruit.--Phoma citricarpa, the cause of citrus black spot, is often found in abundance on the citrus peel which is imported from the Orient in large quantities but is not often sent in on fresh fruit. Recently specimens of Citrus junos, a Japanese variety of lemon sometimes mistaken for Japanese orange owing to its orange shape, were intercepted in stores from Japan at Philadelphia and found to be infected with P. citricarpa. Specimens of Citrus nobilis from China taken in baggage at Seattle were similarly affected.

Gardenia leaf spot.--Some very nice material of the coffee leaf spot fungus Stilbella (Stilbum) flavida was intercepted at New York on gardenias from Cuba. The material went to the mycological collection.

CHESTNUT ROT STUDIES

New York inspectors have been collecting specimens of rotting chestnuts from the cargoes being entered at that port, for study by pathologists in the division of Forest Pathology. Some work was done on the problem of chestnut rots several years ago by the same division but progress was slow owing to the fact that what appeared to be the more important organisms were difficult to culture and did not fruit. It is hoped that newly started studies will be more successful.

BULB NEMATODE IN RUSSIA

We have received an excellent specimen of potato infestation by the bulb nematode, Tylenchus dipsaci, intercepted at Baltimore on November 20, 1933, from Russia. This is a new locality record.

Of the scattering interceptions of plant diseases from Russia in the past quite a number have been of special interest.

MEXICAN BORDER PORT CLOSED

Owing to the light traffic which has persisted for the past year at Zapata, the plant quarantine office at that port was closed on December 17, 1933. Geo. A. Pfaffman, the inspector in charge, has been transferred to Laredo on account of recent increased inspection needs there.

QUARANTINE GREENHOUSE CATCHES FUNGUS

The rigid quarantine procedure carried out at the Arlington farm greenhouses devoted to safeguarding introductions of foreign sugarcane enables the Department to bring safely into our national sugarcane cultures hundreds of varieties of cane from all corners of the earth. So effective are the methods used in freeing these stocks from pests that various other countries are using this system as a model for similar establishments, and in many cases countries without such protective facilities prefer to import new varieties by way of our greenhouses rather than take the risks involved in direct import.

A recent occurrence illustrates the value of this stringent supervision over lots of sugarcane held under quarantine. Examination of a specimen of cane submitted by the Office of Sugarcane Investigations to the plant quarantine inspection house disclosed the presence of a fungus fruiting on the leaf sheaths, which was identified as Linospora sacchari Averna. Hitherto unknown in the United States, this fungus was first described in Brazil where it is regarded as a facultative parasite. What pest status it would assume in our cane fields no one could predict, but no matter what its pest ranking it is clear that it has been caught in the meshes of an effective quarantine net.

DOMESTIC PLANT QUARANTINES

EUROPEAN PINE-SHOOT MOTH

A recommendation that this Bureau consider the advisability of placing an interstate quarantine with reference to the European pine-shoot moth was recently made by the committee of the Eastern Plant Board appointed at the New Haven conference on September 19 to study the problem and formulate a specific course of action to prevent further distribution of the pest. It is proposed by the committee to prohibit the shipment of all pines out of the infested areas during the period from June 1 to September 1, and during the remainder of the year to require certification based on inspection just before shipment. It was recommended that the Bureau of Entomology make a survey to estimate the distribution of the insect in the United States and continue the parasite work. The insect, according to the committee, "has become one of the foremost forest pests" in the regions in which it occurs and "is believed to be generally distributed on ornamental pine plantings throughout northeastern United States * * *." "Quite systematic inspections * * *" the report states, "offer convincing evidence that severe pine-shoot moth infestation in forest plantations is a localized condition of a rather limited nature. Control experiments conducted by several States during the past few years encourage the belief that control practices are feasible and can be effectively applied."

Other measures recommended were (1) that owners attempt control in forest and ornamental plantings by clipping, spraying, and destroying the badly injured stands; and (2) that the States concerned treat infested nurseries in a similar manner, provide for a survey of ornamental plantings, establish intrastate regulations "wherever it seems advisable to prevent infestation over its entire territory," and regulate the transportation of plants by peddlers with heavy penalties for "anyone caught with infested plants or plants unaccompanied by a proper certificate of inspection."

The committee is composed of H. L. McIntyre, Chairman; W. E. Britton, and R. H. Allen.

TRANSIT INSPECTION

Someone in Pennsylvania recently shipped to the West a bottle of rum carefully packed in peat, apparently little suspecting that peat shipped from the Japanese beetle area is checked by transit inspectors for compliance with quarantine regulations. The package was intercepted by this Bureau's inspectors at Omaha and was turned over to the postal authorities for appropriate action.

Parcel-post shipments which are found en route to contain plant material addressed to States maintaining terminal inspection may now be labeled by transit inspectors of this Bureau (as well as by postal employees) to show that they contain plants, under authority recently granted by the Post Office Department. This arrangement will facilitate the diversion of plant shipments to inspection points in the case of shipments not already so labeled. The instructions are covered in Circular No. 42-T, dated December 9, to transit inspectors.

A revised schedule of inspection tours is being put into effect in New York City under which it will be possible during the winter to check freight shipments of nursery stock moving through the principal transfer points in that city.

PHONY PEACH DISEASE

Bureau employees are now cooperating with the State nursery inspectors in the latters' effort to cull out peach-borer-infested and -injured stock in the case of nurseries whose premises are located within 1 mile of phony peach disease infection in the Southern and Middle Western States. For this purpose, contact is being maintained with investigators of the Bureaus of Entomology and Plant Industry in connection with methods of distinguishing between slight borer injury and other causes of damage to the trees. The peach-borer moths did not fly as late this fall as they did in 1932. The young borers were therefore farther advanced at the time shipments of peach nursery stock started.

WHITE-PINE BLISTER RUST

It is found that commercial nurserymen to whom Federal pine-shipping permits have been issued for the present fiscal year are growing a total of 243,150 white pines (including seedlings) as compared with 212,150 pines of salable size which are being grown by nurserymen whose applications were denied, pending satisfactory Ribes eradication in the surrounding zones. Approximately 13,800,000 white pines are being grown in nurseries operated by the Federal Government for reforestation purposes and covered by blister rust permits.

DATE SCALE ERADICATION

During the month of November most of the inspection in the Coachella Valley was carried on outside the infested area. Ladders were not used in this territory as any infestations would, in all probability, result from the introduction of infested offshoots, and such infestations could be found readily from the ground. The inspection within the infested area was both from the ground and ladders as the spread of the scale in this area has been caused, to a large extent, by wind and birds. Infestations caused by spread by means of wind are often established on the upper leaves of tall palms and develop to a point where there is considerable spread before they can be located by ground inspection.

During the month the Johnson planting was inspected and no scale found. The last scale located in the Coachella Valley was found on this place in November 1931. The Johnson planting was a jungle of approximately 2,000 seedling palms when first found infested. Seed had been planted so thickly in rows that in many cases the trunks of the palms touched and the fronds interlaced. When scale was first found the jungle was thinned out, spacing the remaining palms about 30 feet apart in the rows and leaving, where possible, the largest palms. As in all seedling plantings, the palms remaining were about 50 percent males, and the fruit on the females varied in size and all other characteristics. There are about 300 palms remaining in the planting and the owners will probably keep less than 50 as a family garden and ornamentals; the rest are to be destroyed.

In the Imperial Valley the danger zone surrounding the infested area was carefully inspected, most of the places for the last time. No scale has been found in this area, which has been under observation since systematic inspection commenced in 1929.

During the month scattered date plantings in the Salt River Valley, including palms distributed to the Indians on reservations, were inspected and no scale found.

JAPANESE BEETLE AND EUROPEAN CORN BORER

Exclusive Japanese Beetle Work

Four reels of motion pictures describing Japanese beetle quarantine and control work were released by the Department early in November. Preparation of this film has been in progress since July 15, 1932, on which date a scenario of 98 scenes, prepared by R. W. Sherman, was assigned to the Office of Motion Pictures of the Department. A tentative sequence, to be used as a guide for field work, was prepared by H. B. McClure on July 25. From July 26 to August 11, 1932, more than 200 scenes were made. The field party consisted of C. W. Stockwell, subject matter specialist; Mr. McClure, motion picture director; and Carl Turvey, cameraman. Scenes were made in New Jersey, near Philadelphia, Pa., and near South Norwalk, Conn. G. K. Handle also assisted in subject matter supervision in Mr. Stockwell's absence. Roadside inspection scenes were made in Virginia. Lawn spraying scenes were taken in Erie, Pa. A series of scenes for two breakfast set-ups were made at a private home in Washington, D. C. Studio close-ups and animated maps were completed in the motion picture laboratory at Washington. A number of conferences subsequently were held by Messrs. Stockwell and McClure in reference to the subject matter. Titles were prepared by Mr. McClure and revised by the Japanese beetle staff. Critical examination of the final scenario was made by the personnel of the Japanese beetle research laboratory of the Bureau of Entomology. Final viewing of the completed picture by Bureau representatives and interested officials of other bureaus was held in the projecting room of the Office of Motion Pictures on November 10 last, after which the film was released for public exhibition. The new film will replace an old Bureau of Entomology one-reel production, "Holding the Japanese Beetle." Although the old film had been dressed up with modern titles and from it had been cut many antiquated methods, it did not meet the needs for an up-to-date educational picture such as is now available in the recently screened film.

The Arlington Experimental Farm of the Bureau of Plant Industry, at Rosslyn, Va., has maintained a classified status under the Japanese beetle quarantine regulations ever since the quarantined zone was extended on February 15, 1929, to include the county of Arlington, Va. At that time the nearest infestation was 3½ miles distant from the experimental farm. In 1929, beetle infestation had approached to within 2 miles of the farm, but not until the current year has any infestation been determined on the experimental farm property. With limited scouting facilities this year, it was possible to make only three surveys of the farm, one on June 19, another on July 15 and 17, and a final survey on August 9, 10, and 11. Three scouts covering the approximately 350 acres of the farm on August 10 found one Japanese beetle in a section devoted to peach experiments. Discovery of this specimen has resulted in subdivision of the farm into Class I and Class III status. The subdivision within 500 feet of the point of discovery of the insect is amenable to the Class III requirements. Permanent boundaries of the subdivision are formed by roadways, divisions between plots, a ditch, and the banks of the Little River. This section includes plots devoted to peaches, cherries, forage crops, ornamental shrubs, specimen trees, and lawn. Experimental stock shipped under certification from the infested area must be shipped soil free, or else subjected to chemical fumigation or disinfection similar to that practiced in any infested commercial nursery. E. C. Butterfield, senior horticulturist and superintendent of the experimental farm, has been very cooperative in advising the various employees at the farm of the reclassification and has authorized any additional action necessary to insure compliance with the quarantine regulations.

Initial public projection of the Bureau's recently released four-reel motion picture on the subject of Japanese beetle quarantine and control was made at a meeting of the Entomological Society of Ontario held at Toronto on November 23. Preceding the film, a paper entitled "Quarantine and Control Operations for the Japanese Beetle in the United States", was read by L. H. Worthley. Proximity to the Canadian border of a number of incipient Japanese beetle infestations in western New York was the contact point cited as warranting some consideration of the Japanese beetle by members of the Dominion society. Although the center of infestation of the insect is some 275 miles south of the Canadian border, there are a number of isolated infestations within comparatively short distances of Ontario. Emphasis was placed on the methods employed by the Bureau in preventing artificial dissemination of the insect to infested States, and incidentally to Canada, since the Dominion plant pest authorities require Japanese beetle certification as a requisite for export of quarantined articles from the regulated territory. Desirability was suggested of placing traps throughout a limited area of the Niagara peninsula to determine whether any beetles had found their way across the border. There are a great many grape vineyards on the peninsula. Since grapes are among the highly preferred food plants of the beetle, it is evident that the insect could extensively damage local crops were it to become established in the Province. Such an infestation would force vineyardists to apply sprays specifically for Japanese beetle control, thus increasing their cost of production.

"Hitch hiker" was the appellation applied by a greenhouseman in nonregulated Maryland territory to a single Japanese beetle found in one of his greenhouses during August. The find was made about 100 feet from a garage containing an automobile which had returned from a trip to Philadelphia at 1 a.m. on the morning of the find. From his intimate contact with the stock on his premises and observations of insects present in the vicinity, the owner felt certain that the beetle arrived on his place in the automobile from densely infested sections and was an isolated individual, rather than a specimen from a local infestation. Continued scouting failed to locate any further infestation in the establishment or on adjacent premises. Since the establishment was, at the time of the finding of the infestation, in nonregulated territory, it was necessary to secure the owner's voluntary compliance with the regulations applicable to infested premises. The range of greenhouses was given an uninfested status with the exception of the house in which the single beetle was found. The latter was regarded as infested. As soon as the crop of chrysanthemums and violets in the affected house is disposed of locally, the soil in the house will be chemically treated and the range restored to a certified condition. Extension of the regulated section on December 1, 1933, to include considerable territory contiguous to the District of Columbia brought this establishment under the quarantine regulations.

Although this year's public hearing to consider the advisability of extending the Japanese beetle quarantined area to cover States in which infestations were discovered during the past season was held later in October than during any of the past 4 years, the revision of the quarantine and supplemental regulations was approved and made effective earlier than in any year since 1927. Approval on November 23 of the 10th revision of Quarantine No. 48 with supplemental regulations, 12th revision, to become effective December 1, 1933, permitted immediate revision of the Japanese Beetle Quarantine Shipper's Guide. Although there are but a limited number of changes in the sections under regulation, and the additions to the list of post offices, express, and freight stations within the regulated zone are comparatively few, a complete revision of the Guide is being made. This is much more satisfactory than the issuance of a supplement to the 1933 Guide, which would require search in two publications to determine the presence inside or outside the regulated territory of questionable localities.

Moderate weather during most of November permitted many nurseries to continue the digging of large quantities of roses and shrubs. Ordinarily it is not possible to dig this material much after the latter part of October. At infested nurseries, the plants are brought to the packing sheds in an uncertified condition. During inclement or freezing weather, employees of the nursery free the roots from soil. An inspector then examines and certifies all bushes satisfactorily freed from soil. The plants are then placed in storage for early spring shipment. In the Philadelphia district, it was necessary for inspectors to work several

Saturday afternoons, as the nurseries worked at top speed to wash and store their stock before the ground froze. Sufficient material already has been dug to require the services of the inspectors until the middle of December. In southern New Jersey and the Philadelphia territory, roses constitute the principal item dug during November, with dahlia tubers a close second. Nurseries in the Philadelphia area are reported as anticipating an increase in spring trade. The wholesale seed houses also expect more orders and for larger quantities than in 1933.

As indicated by a report received during November from city officials of Detroit, Mich., Japanese beetle trapping activities in that locality were supplemented by city spraying of sections in which infestations previously had been found. The spray was applied by a nozzleman regularly employed by the city, with the assistance of four welfare workers acting as hosemen. The spraying operations began on July 25 in two sections known as the Baby Creek Park or Dix Highway area, and the Bagley and Porter Streets area. In the Baby Creek Park Section, the area sprayed was equivalent to spraying the street trees, and trees and shrubs in the yards on either side of the street for a distance of seven blocks. In the second area, the sprayed section was nine blocks in length. All spraying equipment was furnished by the City of Detroit, Department of Parks and Boulevards. Lead oleate coated lead arsenate was supplied by the Bureau of Plant Quarantine. A total of 535 trees was sprayed in the two sections; no count was made of shrubs. The insecticide was applied at the recommended dosage of 9 pounds per 100 gallons of water. Fourteen full loads of a 400-gallon capacity sprayer were required to thoroughly cover the foliage in the sprayed sections.

Interesting data concerning stomach contents of birds, gathered in 1931 by some deputy game protectors and other officials and cooperators of the Pennsylvania Game Commission have recently been submitted for our examination. Confirming previous observations made by research workers of the Department, these data indicate that starlings, purple grackle, and pheasants are important predators of the Japanese beetle in both its immature and adult stages. Instances were frequently encountered of starlings being found gorged with Japanese beetles. Stomach contents of English sparrows and robins evidenced less feeding on the insect than the three species mentioned. Starlings, purple grackle, and pheasants, when recovered in sections heavily infested with the beetle, invariably contained quantities of Japanese beetles among the stomach contents. One of the outstanding birds examined was a hen pheasant recovered near Norristown in August 1931. In the crop of the bird were counted 128 Japanese beetles, 1 grasshopper, and 1 "hump" worm. The gizzard was gorged with grasshoppers, Japanese beetles, and other beetles which were too far digested for an accurate count.

Manure mulches were utilized to maintain soil temperatures at 40° F. about the roots of most of the nursery stock treated with miscible carbon disulphide emulsion during November. Disinfection instructions require that the temperature of the soil 6 inches below the surface must be at least 40° during the 48-hour period of treatment. Treatments were applied to 527 plants in four nurseries. Five of the plants were large trees, requiring insertion of a series of collars about the base of the trees so that the surface of the soil ball to be dug and an additional surrounding safety zone could be treated. Since the soil temperatures at a depth of 6 inches fell below the minimum in a number of instances throughout the month, mulches of certified manure were spread on the treated soil to maintain the required temperature for the 2 days during which the collar and soil remained undisturbed.

Cessation of road patrol operations at the border of the regulated areas was accomplished from November 9 to 15. Closing of 31 stations in Virginia and on the Pennsylvania-Ohio, Pennsylvania-West Virginia, and Maryland-West Virginia lines was involved. Since the revised quarantine regulations effective December 1, 1933, do not extend the boundaries on which the road stations were operated this year, the road booths at each post were stored on properties near the established posts. This facilitates their replacement when the work is reorganized. A single road inspector employed by the Virginia Department of Agriculture will remain on duty on route 1 south of Fredericksburg until December 15, on which date all border guarding will terminate for the year.

At the request of the custodian of the Federal building in Springfield, Mass. approval was granted for removal of the Japanese beetle quarantine suboffice, in charge of T. M. Cannon, from room 428 of the post office to room 328, on the floor below. Room 428, formerly shared with the Bureau of Agricultural Economics, is now occupied by the Home Owners Loan Corporation. Prior to the transfer on November 17, the Home Owners Loan Corporation occupied three separate locations. Occupancy of contiguous space by the local corporation officials is possible by relocation of the Department of Agriculture office. The two bureaus of the Department are now in rooms 328 and 328-B, which are separate offices with a common entrance.

Two temporary per diem State employees previously engaged in Japanese beetle quarantine enforcement have secured positions with newly created Government projects. One employee, who has been on transit inspection work in New York City, was given a position as instructor at a CCC camp in Massachusetts and reported for work on November 14. Another employee, previously engaged in nursery inspection work from the New Haven, Conn., office, has been placed on the CWA program as a foreman in connection with the Connecticut mosquito elimination program.

Inquiry recently was received from a common carrier as to fumigation of carloads of bananas moving from Philadelphia on August 4, 1930. This information was desired in defending a suit against the carrier in connection with transportation of several cars of bananas from Philadelphia to Pittsburgh and points in Ohio, Virginia, and West Virginia. Any assistance which the common carrier might have anticipated from fumigation procedure was dispelled when it was found that during 1930 no cars of bananas were fumigated for the shipper after July 24.

Of 393,491 beetles captured in a limited number of traps placed on the White Horse, N. J., plot, which, during 1932, was treated with arsenate of lead and seeded to smartweed, 37 percent of the beetles were caught in traps baited with the old type bran bait mixture, while 63 percent were captured in an equal number of alternating traps baited with the geraniol-eugenol liquid bait now exclusively used in our trapping activities.

Another request for literature regarding the Japanese beetle and European corn borer from an informational officer at a Civilian Conservation Corps camp was received recently. This time the request was from an employee at Camp No. 70-A at North Adams, Mass. The individual to whom the information was sent gives weekly talks to the members of the corps on insects that are injurious to shade and forest trees and to farm crops.

Final observations for the season of an adult Japanese beetle in the field was made near the packing house of a South Jersey nursery on November 1. This is 1 day later than the last find of an adult beetle reported by the Moorestown, N. J., research laboratory of the Bureau of Entomology. Several beetles were reported found in greenhouses by unclassified greenhousemen at Newtown and Chester, Pa., during the week of November 13.

Miscellaneous beetles, other than Japanese beetles, collected in Japanese beetle traps in their respective States were sent to Franklin Sherman, Clemson College, S. C., and to R. W. Leiby, Raleigh, N. C. State Entomologists of these two States requested the miscellaneous beetle collections as items of interest in their own insect-pest surveys.

Several carloads of nursery stock were shipped from South Jersey area during November. One establishment, heretofore unclassified, has been advertising extensively and expects to ship 5,000 azaleas during December. This will require actual inspection. The nurseryman is fumigating a greenhouse, so that in the future he will be in a position to offer certified potted stock.

District supervisors in charge of the subdivisions of the regulated territory in the 11 States under quarantine were called in for a conference at the Harrisburg field headquarters on November 1. Discussions at the conference centered principally on a proposed change in the method of affixing Japanese beetle certificates to containers of certified material. Dr. Fracker met with the field workers.

"Results of treatments at Erie, Pa., for control of the Japanese beetle", is the title of a paper presented by C. W. Stockwell, of the Harrisburg headquarters, at the annual meeting of the Eastern Plant Board, held at the Robert Morris Hotel in Philadelphia on November 22. The first paper to be read at the Board's annual meeting was a "Survey of the Federal Quarantine Situation", by A. S. Hoyt.

Project employees who attended one or more sessions of the fifth annual meeting of the Eastern Branch of the American Association of Economic Entomologists held at the Academy of Natural Sciences in Philadelphia on November 23 and 24 were G. K. Handle, J. P. Johnson, V. A. Johnson, R. W. Sherman, and G. B. Stichter.

Corn Borer Certification Activities

The majority of the Federal certificates issued during November for the movement of articles restricted under State European corn borer quarantines were issued in Massachusetts and New Hampshire, from which States 154 shipments were moved under certification. Shipments in fewer numbers were also certified from New Jersey, Pennsylvania, Connecticut, Ohio, Michigan, and Indiana.

MEXICAN FRUIT FLY

The principal activity of the month was the operation of 5,136 glass flytraps. These traps were located in 491 selected groves scattered throughout the

Valley. No A. ludens were taken in Texas during the month; however, 43 specimens of 3 species of Anastrepha were captured in the traps. Frequent rains during the first half of the month interfered with this work, but during the latter half ideal weather for trapping was experienced.

Experiments conducted in October in screening the opening of the traps with 1/4-inch hardware cloth for the purpose of keeping out the moths were so favorable that one half the traps in the field were equipped with screens. The inspectors kept a record of the catch of Diptera in the screened and unscreened traps and reported that the screened traps were much more effective.

The use of the screens resulted in a considerable saving in the amount of bait used. From 1-1/2 to 1-2/3 cupfuls of bait were required in the unscreened traps, whereas one cupful was found to be sufficient in the screened.

One adult ludens was taken in Matamoros on the 27th. This was not unexpected since oranges arriving in Matamoros during October and November from the Montemorelos area were found to be consistently infested. As a result of the large importations of these oranges and their low cost innumerable small fruit stands sprang up throughout the city. This made the collection of spoiled fruit exceedingly difficult and undoubtedly much infested fruit was thrown out in the yards when found to be wormy. Infested fruit is evidently culled out closely at the point of shipping since very little fruit showing symptoms of infestation is found on arrival at Matamoros; however, after being held on the stands for a few days infestations begin to show up. On two occasions during November, residents of Matamoros reported to the Mexican inspector that apparently sound fruit purchased on the market developed symptoms of infestation after being held in their homes for a few days. It is doubtful if any larval infestation will develop in Matamoros since practically no fruit was left on the trees by the hurricane of September 4. The trees on the premise in which the adult was taken were sprayed with the nicotine-molasses solution.

A total of 230 infested oranges were collected from the stands and from the cars on arrival; from these 560 larvae of A. ludens were taken. One larva of A. striata was taken from a guava shipped into Matamoros from the State of Michoacan.

The shipment of citrus fruit from the Valley continued sluggish throughout November. Approximately 390 carloads were shipped, better than half of which moved by truck. Trucks have consistently handled more fruit this season than the railroads, which is unusual. Until the 15th of the month packers experienced difficulty in finding groves of seedless fruit that would pass the State maturity tests. After that date the seedless fruit was tested on a sliding scale and shipments began to pick up. It was estimated that approximately one fourth of the crop had been moved by the end of the month.

One case of a willful intention to violate the quarantine was intercepted at the road station on the 7th. In this case the trucker arrived at the station with a load of 111 bushels of fruit on which he had proper clearances for only 70 bushels. He was returned to the Valley where an investigation developed that he had purchased 70 bushels of good fruit from a grower who had given him 41 bushels of storm-blown fruit which had failed to pass the State maturity test. In view of certain extenuating circumstances no action was taken other than to require the trucker to destroy the 41 bushels of fruit and to have the remainder of the load regraded.

A number of truckers were returned to the Valley for proper certification under the Standardization Act.

During last season the various district inspectors were called upon to issue an average of 800 master permits monthly after office hours. To relieve these inspectors of this extra work, an inspector was placed on duty at Edinburg from 5 p.m. until 1 a.m. to release loads leaving the Valley during those hours. Since practically all trucks leaving the regulated area must of necessity pass through Edinburg, this system worked very nicely.

PINK BOLLWORM

Gin-trash inspections were continued in the Western Extension counties of Texas and the two eastern counties of New Mexico. In addition to the four counties in Texas and one in New Mexico, mentioned in the last News Letter, specimens of the pink bollworm were found in Bailey, Cochran, and Lamb Counties, Tex., and Roosevelt County, N. Mex. Toward the middle of the month the volume of trash per bale had increased to the extent that efficient gin-trash inspection could not be continued, therefore the machines were closed and the inspectors began field inspections. At the present time infested fields have been located in Gaines, Lamb, and Yoakum Counties, Tex., and in Lea County, N. Mex. As this is being written word has been received that suspicious specimens have been found in Roosevelt County, N. Mex. These have since been received for identification and are pink bollworms.

As mentioned in the last News Letter, pending the extending of quarantine regulations to the above area, the movement of products is being handled through the cooperation of the gins and oil mills. Such arrangements have continued to work out quite satisfactorily. It is now estimated that over 90 percent of the crop has been ginned in the southern part of the area and at least 80 percent in the northern part. Two of the oil mills have a considerable amount of seed on hand to be treated, which will probably require from 60 to 90 days; however, the other mills have been able to treat the seed as it was received.

Gin-trash inspection was continued in southern Georgia through the first week in November. By that time the majority of the gins had closed and others were operating irregularly, so that it was impossible to secure sufficient trash to justify the operation of the machines. Field inspections were also continued until the middle of the month. In Madison County, Fla., both field and gin-trash inspections were continued the entire month. In the above areas over 12,000 bushels of trash were inspected this season. No additional specimens of the pink bollworm have been found since the last News Letter was issued.

The only gin-trash machines operating within regulated areas were in the Salt River Valley and Tucson areas of Arizona. In the Salt River Valley practically all of the available trash was inspected. In ~~the~~ Tucson area the inspections were not so satisfactory. The acreage planted to cotton is not sufficient to keep the gin operating continuously, therefore the cotton is picked and stored until a sufficient quantity is on hand to justify operating the gin. It has been found that where seed cotton is stored any length of time insects have a tendency to leave the cotton. Therefore, very few insects of any kind were found in the trash in the Tucson area, and no specimens of either the pink bollworm or the Thurberia weevil.

It was considered advisable to clean all cotton fields within approximately a mile and a half radius of the two infested fields in southern Georgia. This work was begun in November, and at the end of the month had been about half completed. The clean-up will probably be completed within the next 2 weeks.

The clean-up of cotton acreage at Castolon, in Brewster County, Tex., was begun on November 6 and completed on November 22. This clean-up consisted of cutting the stalks with machetes to prevent shattering of bolls from the plants. The laborers then went over the acreage and picked up all material from the ground, after which this material, together with the stalks, was burned. A total of 130 acres, or the entire cotton acreage in Brewster County, was cleaned. Clean-up of the acreage in Presidio County was begun on November 13, and with favorable weather and plenty of laborers available, the work went forward very rapidly. All of the farmers are giving whole-hearted cooperation in this work. The manager of the largest farm in the Big Bend is spending all of his time in the fields helping the foremen and supervisors. He is doing this work without pay, even though he was offered a job as foreman. Another farmer, who also operates a gin, is furnishing a truck and driver to help transport the laborers. Other farmers are furnishing any equipment they have which will help speed up the work.

Early in the month the eradication of wild cotton was resumed in southern Florida. All of the work done so far has been along the west coast, and it is especially gratifying to note that at one location where 22 colonies were formerly cleaned, 9 were found to be entirely free of any wild cotton at this time. Some 26 colonies, covering about 36 acres, were recleaned, and only 120 plants were found which had been missed during the previous clean-up. In addition, 23,138 seedling and 324 sprout plants were removed. During this clean-up a considerable number of green bolls had been examined from time to time; however, no specimens of the pink bollworm were found.

During the past several months inspectors of the Florida Plant Board have been reporting the location of any dooryard cotton, either wild or domestic, encountered in connection with their regular grove-inspection work. This has enabled our inspectors to go right to such cotton without any loss of time. During November 267 large, 84 small, and 493 seedling plants were removed from 93 different locations, most of which were in the vicinity of Miami and Miami Beach. It will be a simple matter to visit these locations from time to time to make sure that no seedling or sprout plants have come up.

The steam-pressure sterilizer, erected at Alpine by the State of Texas, was described in the November News Letter. A similar plant has been erected at Fabens, Tex., to treat cotton from the heavily infested portion of Hudspeth County. This plant began operating on November 17.

During the month of November 938 cars were inspected at the Marfa road station, from which 16 interceptions were made. Of this number 4 were found to be infested by the pink bollworm, 43 living and 9 dead larvae being taken. This makes 11 interceptions which have been found infested since this station opened the first of September, 82 living and 15 dead larvae being taken. The traveling public has continued to give the best of cooperation toward this station, not a single car having gone by without stopping.

PREVENTING SPREAD OF MOTHS

For November, gypsy moth scouting crews were active in towns in northern Vermont, southwestern Massachusetts, northwestern Connecticut, and in a small group of towns in northeastern New York immediately west of Lake Champlain. Practically all of the scouting was done in highland sections to accomplish as much of this work as possible before severe weather conditions prevented activities in the inaccessible sections of those States. At the beginning of the month, 77 crews were engaged in scouting in Vermont, and gradually more and more men were assigned to that State until by the end of the month 99 crews were scouting there. Since the beginning of the fall scouting in Vermont, nearly 400,000 acres of woodland have been examined and approximately 800 miles of roadsides in more open country. Throughout the month 7 crews have been engaged in scouting in the highland areas of southwestern Massachusetts and working in territory contiguous to that section in Massachusetts, and 10 crews have been working in similar highland sections in northwestern Connecticut. Since the beginning of this work some 14,000 acres of woodland have been scouted in Massachusetts and nearly 20,000 acres in northwestern Connecticut. In addition, a considerable number of miles of roadsides in open country have been examined in both States. Due to weather conditions, scouting in New England and New York was considerably retarded during certain periods of the month. Severe snowstorms occurred which made it impossible for the men to examine the trees thoroughly; also if required to work under such conditions the men soon became very wet, which made them quite susceptible to colds. As a result of those storms there was at least 6 inches of snow on the ground in the lowland sections of Vermont with 2 feet or more present in the higher sections. Such conditions made walking extremely difficult and progress slow, as a large part of the work being done in that State was in the more mountainous sections. It has been a number of years since scouting work has been handicapped by so great a fall of snow thus early in the season. During the month it became necessary to reopen one of the training schools which had been in operation in one of the towns bordering the Connecticut River in southeastern Vermont. In connection with the training of scouts for regular work it is interesting to note the amount of work which has been accomplished. From the opening of the first training school in Vermont over 16,000 acres of woodland were examined by the men in training and nearly 23,000 gypsy moth egg clusters were destroyed with creosote.

In Pennsylvania the men engaged in gypsy moth work were for the most part placed in scouting crews examining woodland, scattered trees along roadsides in open country, and growth along river banks. At the beginning of the month 24 crews were active on such work and this number was increased to 29 by the end of the month. Scouting performed was very intensive, a tree-by-tree examination being made. This type of scouting is of necessity quite slow but it is absolutely essential in such territory as is present in the Pennsylvania infested area. In general, the area is quite heavily infested and the growth in many places is thick and tangled, making it extremely slow work to make a thorough examination of the area, which is particularly desirable as complete eradication is the goal. In addition to the crews engaged in scouting, 6 or 7 crews were assigned to cutting dead trees, small trees of no commercial value and brush, and cleaning up areas in the more heavily infested sections so as to permit spraying next spring and summer. Certain sections of the infested area were overgrown with birch, poplar, and other comparatively short-lived trees. Many of these had been broken by storms and the result was a tangled mass of splintered tree trunks and ragged stumps which made conditions for gypsy moth scouting almost impossible. Crews are sent into such areas to cut out all but the most desirable of the living trees; brush and slash is burned, and in this way many egg clusters are destroyed. For a part of the month one crew was engaged in cleaning old trails in part of the infested area; these trails which penetrate many woodland blocks have been overgrown. After clearing it will make it possible for employees to reach woodland blocks where scouting is to be carried on more easily than could be done through untracked woodland. Such cleared trails will also be of very great assistance next spring in permitting sprayer trucks to be driven closer to infested blocks of woodland.

In the Civilian Conservation Corps camps located west of the Connecticut River, from which gypsy moth scouting and eradication work is being performed by part of the personnel, there was a gratifying increase in the number of men who could be assigned daily to such work. Toward the end of November there was a daily average of about 450 men engaged in gypsy moth scouting and control work. During the early part of the month woods conditions were not of the best due to considerable snow which made everything very wet. The men at the camps had not been equipped with suitable footwear for such work and also lacked proper outdoor clothing, and for these reasons could not work in comfort. Later, proper footwear and clothing were issued and the work was resumed.

There has been a decidedly satisfying amount of gypsy moth scouting and clean-up work performed by men at the camps, who in spite of entire lack of training previous to being assigned to gypsy moth work have taken hold well and in many cases have adapted themselves to control activities. When gypsy moth work by men at certain C.C.C. camps was first authorized, it was planned to use a considerable number of men from each of the selected camps, but owing to unforeseen circumstances this number has not been so large as was hoped for. At first, all of the men at each of the camps were required for the necessary constructional work to make the camps livable and to undertake some of the immediately pressing conservation work. Gradually as such work neared completion men could be assigned to gypsy moth work and there is hope that the number will continue to increase. Because the men were without knowledge of scouting or control work there had to be suitable periods of training under experienced foremen. Gradually this lack of knowledge was remedied, and now the work being performed by those who have been on it for some time is quite satisfactory. Since its inception the men at the camps have been able to scout some 60,000 acres of woodland, over 450 miles of roadsides in open country, and have destroyed nearly 35,000 gypsy moth egg clusters.

The establishment of C.C.C. camps in various sections of New England has added somewhat to the duties of the quarantine inspectors. Men located at some of the camps have desired to send to relatives or friends small evergreen trees which they have taken from the woods or evergreen materials to be used for decorative purposes. All such shipments have been inspected and certified before being sent. From some of the more eastern districts a considerable amount of lumber has been trucked to be used for construction purposes at some of the camps located farther northward and westward. Although this lumber for the most part is free from bark, it has been stored in the open and therefore requires careful inspection before certificates are issued.

Various wood-product manufacturing concerns located in the gypsy moth quarantine area have been in the habit of marketing at least a portion of their waste wood for kindling, using the other portion for fuel at their manufacturing plants. Kindling wood shipped had to be inspected and certified. It has been reported that it is extremely difficult to find a ready market for kindling in large quantities and therefore it has become quite difficult for some of the firms to dispose of waste wood from their saws. At least one manufacturing company which makes dowels, tool handles, etc., has installed machinery for converting all waste wood into sawdust. The latter material is in considerable demand and can be disposed of much more easily than the waste wood. This wood as it comes from the saws is carried to the machine where it is ground into sawdust and blown into a tower from which cars and trucks can be loaded.

During the course of the year quarantine inspectors in some of the districts inspect and certify for shipment small bird houses. These are often constructed of rough materials on which a considerable amount of bark remains. The usual procedure is to inspect such materials before they are made up into houses and then certify shipments as they are sent out. In practically all cases such houses are quite small, but recently from one of the Maine districts a house was sent which was of decidedly unusual size. This house was approximately 3 feet in each one of its dimensions. The sides were covered with birch bark and the floor and roof were made of small spruce poles which had been split and put on to represent logs. This house was shipped from Maine to California and was intended not only for birds but also as a lawn ornament.

For the last year or so the general decrease in business has affected the shippers of stone and quarry products probably as much as those of any other industry. In consequence, there has been somewhat of a decrease in the number of shipments inspected and certified. It appears that a considerable amount of the activity at different quarries and finishing plants is due to orders which have been received from contractors who are erecting public or memorial buildings. One of the interesting reports received states that one firm is working on a contract for four giant statues to be placed at the Roosevelt Memorial Building in Central Park, N. Y. These figures are all carved from solid blocks of granite and are to be 13 feet high and 5 feet square at the base. The carving of these statues began in December 1932, and work on them is not yet completed. Although the statues themselves have not been exposed to gypsy moth infestation, there will be considerable inspection involved as a large amount of lumber will be used in crating to prevent damage and also in blocking to secure the crated pieces on the cars.

From another section of the quarantined area a considerable amount of granite is being shipped for the construction of a new post office building at Philadelphia. The first four stories of this building are to be constructed of polished granite.

However, the specifications do not call for the same shade of granite for all parts of the four stories, and for this reason granite from other sections is being shipped to the firm under contract to furnish the pieces so that it may be put in proper condition for use in the new building. Some of the pieces are of decidedly large size, two being reported as weighing at least 30 tons each. In connection with the granite industry it is of interest to note that there is a very great amount of variation in color depending upon point of origin. Granite is quarried in New England which will range in color all the way from nearly pure white to almost jet black. Any given locality usually produces only one shade of color, and oftentimes granite-cutting firms find it necessary to buy rough blocks of the desired shades from many sections of New England in order to complete a contract awarded.

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